

COMPOSITIONS AND METHODS FOR DETERMINING
ANTI-VIRAL DRUG SUSCEPTIBILITY AND RESISTANCE
AND ANTI-VIRAL DRUG SCREENING

5 Abstract of the Disclosure

 This invention provides a method for determining
 susceptibility for an anti-viral drug comprising: (a)
 introducing a resistance test vector comprising a patient-
 derived segment and an indicator gene into a host cell; (b)
10 culturing the host cell from (a); (c) measuring expression
 of the indicator gene in a target host cell; and (d)
 comparing the expression of the indicator gene from (c) with
 the expression of the indicator gene measured when steps
 (a)-(c) are carried out in the absence of the anti-viral
15 drug, wherein a test concentration of the anti-viral drug is
 present at steps (a)-(c); at steps (b)-(c); or at step (c).
 This invention also provides a method for determining anti-
 viral drug resistance in a patient comprising: (a)
 determining anti-viral drug susceptibility in the patient at
20 a first time using the susceptibility test described above,
 wherein the patient-derived segment is obtained from the
 patient at about said time; (b) determining anti-viral drug
 susceptibility of the same patient at a later time; and (c)
 comparing the anti-viral drug susceptibilities determined in
25 step (a) and (b), wherein a decrease in anti-viral drug
 susceptibility at the later time compared to the first time
 indicates development or progression of anti-viral drug
 resistance in the patient. This invention also provides a
 method for evaluating the biological effectiveness of a
30 candidate anti-viral drug compound. Compositions including
 resistance test vectors comprising a patient-derived segment
 and an indicator gene and host cells transformed with the
 resistance test vectors are provided.

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